

A P P E N D I X - I (B)

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PROGRAM SAMPLE
DIMENSION T1(1000)
COMMON ISIZE
DOUBLE PRECISION TBAR,S2T,T1,S1,S11,G,TO,TO1,TM,TV
OPEN(6,FILE='PRN')
IX = 190
IY = 800
IZ = 122
ISIZE = 1000
G = ISIZE
WRITE(6,905)
905 FORMAT(10X,'COMPARISON OF SAMPLE MEAN AND VARIANCE' )
AO = 1
BO = 1
S11 = 0
S1 = 0
DO 50 I = 1,ISIZE
10 CALL RANDOM(IX,IY,IZ,RAND)
U1 = RAND
IF(U1.LE.0.0) GO TO 10
TO = -ALOG(U1)/AO
20 CALL RANDOM(IX,IY,IZ,RAND)
U2 = RAND
IF(U2.LE.0.0) GO TO 20
TO1 = -ALOG(U2)/BO
T1(I) = TO + TO1
S1 = S1 + T1(I)
S11 = S11 + T1(I)*T1(I)
50 CONTINUE
G = ISIZE
TBAR = S1/G
S2T = S11/G -TBAR*TBAR
TM = 1.0/AO + 1.0/BO
TV = 1.0/(AO*AO) + 1.0/(BO*BO)
WRITE(*,55) ISIZE,AO,BO,TBAR,S2T,TM,TV
55 FORMAT(5X,'SAMPLE SIZE =',I4,5X,'ETA=',F10.4,'XI=',
*F10.4, '//', 'THEOROTICAL MEAN =',F10.4,5X,'THEOROTICAL
*VARIANCE=',F10.4, '//', 'SAMPLE MEAN =',F10.4,5X,'SAMPLE
*VARIANCE=',F10.4)
STOP
END

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C      SUBROUTINE FOR GENERATION OF RANDOM NUMBERS
      SUBROUTINE      RANDOM(IX,IY,IZ,RAND)
      IX=171*MOD(IX,177)-2*(IX/177)
      IY=172*MOD(IY,176)-35*(IY/176)
      IZ=170*MOD(IZ,178)-63*(IZ/178)
      IF(IX. LT. 0)      IX=IX+30269
      IF(IY. LT. 0)      IY=IY+30307
      IF(IZ. LT. 0)      IZ=IZ+30323
      RAND=AMOD(FLOAT(IX)/30269. 0+FLOAT(IY)/30307. 0 +
*      FLOAT(IZ)/30323. 0      ,      1. 0      )
      RETURN
      END

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